From generic to specific mentoring: A five-factor model for developing primary teaching practices

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Educators (Mullen, Cox, Boettcher, & Adoue, 1997) have pushed for new patterns of mentoring within teacher education. Ramsey (2000) claimed that teacher quality was not a priority for universities and employers, as they were largely disconnected with regard to coordinating the development of preservice teachers. Recommendation 14 of his report states that teacher education should "expand, as a priority, current professional development initiatives which equip educational leaders and mentors with the knowledge and skills to fulfil their roles in the induction of new members" (p. 208). Not surprisingly, preservice education appears to hold the key for changing practice towards inclusions of education reform (Briscoe & Peters, 1997), and may be the most influential stage to target towards achieving effective teaching practices (e.g., Appleton & Kindt, 1999; Watters & Ginns, 2000). Mentoring can be a change agent but will require further initiatives from universities and school-based mentors to more effectively guide preservice primary teachers in specific subject areas. Indeed, for primary school based mentors to be more effective in their practices, mentoring programs need to focus on specific objectives for developing specific teaching practices.

Mentoring: An approach for changing practices

In education, mentoring is a complex, multidimensional process of guiding, teaching, influencing and supporting preservice teachers (Ackley & Gall, 1992). Mentoring in teacher education involves complex personal interactions "conducted under different circumstances in different schools it cannot be rigidly defined" (Wildman, Magliaro, Niles, & Niles, 1992, p. 212). Without a definition consensus, the development of a mentorship knowledge base in education can be haphazard (Healy & Leak, 1990). Nevertheless, an expanded view of mentoring may facilitate the development of the mentor's role and can make explicit the issues of mentoring (Mullen, Whatley, & Kealy, 1999, p. 25). Most importantly, the one-to-one relationship in mentoring needs to focus on the needs of the mentee (Soutter, Kerr-Roubicek, & Smith, 2000), involving "a great deal of team-building, and intense communication and information sharing" (Fullan, 1999, p. 37), which aids the mentee to learn about students, school operations, school structures, grade levels, subject matter, the education system, and the profession. An experienced mentor, who clearly articulates teaching practices, may elicit from a capable mentee effective teaching skills at a renewed level of awareness.

From generic to specific mentoring

Generic characteristics for teaching how to teach can provide mentors and mentees with a means for developing key aspects of teaching practices (Williams & McBride, 1989). Generic mentoring knowledge has grown considerably over the last decade (e.g., McIntyre, Hagger, & Wilkin, 1993; Tomlinson, 1995; Edwards & Collison, 1996; Reiman & Thies-Sprinthall, 1998). Indeed, it was found in the UK that nearly all mentoring in primary

teaching was generic (Jarvis, McKeon, Coates, & Vause, 2001). Although generic mentoring approaches may be beneficial, effective mentoring differs from subject to subject. That is, mentoring for primary science teaching will differ from mentoring the teaching of physical education. To illustrate, an upper gymnastics class will require specific teaching techniques to ensure the students successfully learn those skills. The mentoring strategies for a gymnastics lesson will require the mentor to have an understanding of how to teach gymnastics effectively at that level and how to manage the types of activities within particular settings. In contrast, the organisation and pedagogical knowledge of a primary science lesson will be different from a gymnastics lesson. Hence, there is a need to specialise mentoring practices in order to cater for developing mentees' knowledge and skills in specific subject areas.

Enhancing teaching practices will therefore require the mentor to have specific pedagogical knowledge appropriate to the activity. Feiman-Nemser and Parker (1990, p. 42) have shown that pedagogical knowledge can have differences from one subject to the next and, therefore, mentoring must "address content-related issues in content-specific terms". Peterson and Williams (1998, p. 732) also claim that unique mentoring processes are required for specific subject teachers. Despite this need for mentoring in specific subject areas, mentors in primary education may not be confident to mentor in specific subjects (e.g., see Jarvis et al., 2001). Hence, mentors may require further education on specific mentoring practices.

Addressing the problem of "non-specialist" mentors

For a mentee to receive adequate mentoring in specific subject areas such as primary music teaching, allocating a "music teaching" mentor in the primary school will be extremely difficult. Ideally, expert primary music teachers who are skilled in mentoring would be best suited as mentors in this area, yet *this* is the crux of the mentoring problem, that is, educating mentors to be sufficiently skilled in mentoring for effective teaching within a specific subject area. For preservice education, matching mentees with *expert* primary music teaching mentors cannot be a consideration as the number of mentees would out-number expert primary music teaching mentors in the vicinity of a university.

Matching mentees with mentors who are interested in improving their own primary mathematics teaching practices or English teaching practices may bolster the confidence of both mentees and mentors in this area, which may be possible without being an expert in this subject area (Hudson & McRobbie, 2003). To illustrate, primary teachers may teach art without being artists, music without being musicians, and various sports without being experts in those particular sports. These teachers can address the outcomes advocated in curricula documents even though they are "non-specialists" in the field. Undoubtedly, general primary teachers will not be experts in all subjects in the primary school, and so they must learn to teach more effectively in subject areas where they are not experts. Likewise, generalist primary teachers need to learn to mentor more effectively in subject areas where *they* are not experts.

Teachers who are formally prepared for their role as mentor with on-going support can extend their knowledge base on specific mentoring. In most cases, "mentors are thrust into

the new role of mentoring with only the most meagre guidance" (Edwards & Collison, 1996, p. 11). Mentors need explicit education in mentoring in order to reflect on their actions for developing in mentees "higher levels of professional thinking" (Veenman, de Laat., & Staring, 1998, p. 6), and this is also relevant for specific subject areas. A previous study on specific mentoring (Hudson, Skamp, & Brooks, 2004) had identified a correlated and statistically significant five-factor model (i.e., personal attributes, system requirements, pedagogical knowledge, modelling, and feedback, see Figure 1). These five factors will be discussed in the following.

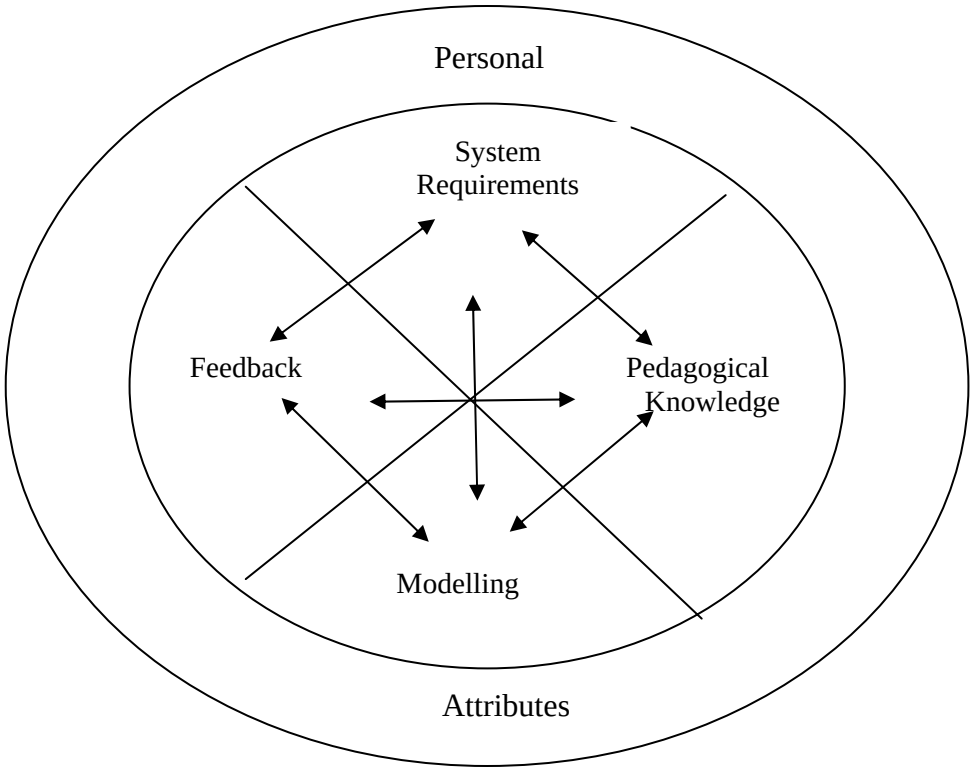

Figure 1. Five-factor mentoring model

Five-factor model for specific subject mentoring

Factor 1: Personal Attributes.

Mentors need to exhibit a number of personal attributes to develop mentees' primary teaching (Ackley & Gall, 1992; Galbraith & Cohen 1995). The mentoring process may be strengthened with the inclusion of the Personal Attributes factor (Hudson et al., 2004; Figure 1), particularly as learning takes place within a social context (Kerka, 1997) and a mentor's personal attributes aim to facilitate such learning (Galbraith & Cohen 1995; Ganser, 1996). Indeed, the mentor's personal attributes are fundamental to the mentoring process (Figure 1). In relation to Personal Attributes, mentors need to be: (1) supportive (Ackley & Gall, 1992), (2) attentive (Kennedy & Dorman, 2002), and (3) comfortable with talking about specific primary teaching practices (Jonson, 2002). Mentors also need to: (4) instill positive attitudes in their mentees for teaching primary subjects (Feiman-Nemser &

Parker, 1990), (5) instill confidence in their mentees for teaching primary subjects (Enochs, Scharmann, & Riggs, 1995), and (6) assist the mentee to reflect more positively on practices for improving the teaching of specific primary subject areas (Abell & Bryan, 1999; Upson, Koballa, & Gerber, 2002).

Factor 2: System Requirements.

System requirements present quality control directions by providing a curriculum that focuses on achieving specific aims for teaching (Lenton & Turner, 1999; Peterson & Williams, 1998). System requirements are an essential aspect for reforming primary education (e.g., Bybee, 1997). Mentors' provision of System Requirements may contribute to reforming primary education at the preservice level. Indeed, when beginning teachers commence employment in an education system they will need an understanding of System Requirements. Mentors can provide valuable assistance with mentees' understanding of key practices associated with the System Requirements factor (Hudson et al., 2004). Three key mentoring practices may be associated with System Requirements, which focus on: (1) aims for teaching a specific subject (Harlen, 1999), (2) the specific primary curriculum (Bybee, 1997; Jarvis et al., 2001), and (3) school policies related to specific primary subject areas (Riggs & Sandlin, 2002). Hence, the mentoring of aims, curriculum, and policies in specific primary subject areas may advance the mentees' understanding of System Requirements, especially if this mentoring is connected with the other four factors.

Factor 3: Pedagogical Knowledge.

Pedagogical knowledge is developed within the school setting (Allsop & Benson, 1996; Hulshof & Verloop, 1994) and is essential for supporting effective primary teaching (e.g., Roth, 1998). Mentors need to have pedagogical knowledge to guide their mentees' teaching practices (Kesselheim, 1998). The mentor's provision of the factor, Pedagogical Knowledge, is key to the mentoring process overall (Hudson et al., 2004). Similarly, the omission of Pedagogical Knowledge in mentoring programs will limit or reduce the quality of experiences mentees can receive within the school setting. Eleven mentoring attributes and practices may be associated with Pedagogical Knowledge, namely: (1) planning for teaching (Jarvis et al., 2001), (2) timetabling (Williams, 1993), (3) preparation (Rosaen & Lindquist, 1992), (4) teaching strategies (Fleer & Hardy, 2001), (5) classroom management (Corcoran & Andrew, 1988), (6) questioning skills (Fleer & Hardy, 2001), (7) assisting with problem solving (Breeding & Whitworth, 1999), (8) content knowledge (Lenton & Turner, 1999), (9) implementation (Beck, Czerniak, & Lumpe, 2000), (10) assessment (Jarvis et al., 2001), and (11) providing viewpoints (e.g., Fleer & Hardy, 2001).

Factor 4: Modelling.

The mentees' skills for teaching are learned more effectively by observing their mentors' modelling of teaching practices (Barab & Hay, 2001; Carlson & Gooden, 1999). Modelling teaching practices may be linked to implementing primary education reform, particularly as beginning teachers can introduce change into the education system (Rodrigue & Tingle, 1994). Eight attributes and practices may be associated with Modelling specific primary teaching, that is, modelling: (1) enthusiasm (Long, 2002), (2) teaching (Little, l990), (3) effective teaching (Briscoe & Peters, 1997), (4) a rapport with

students (Ramirez-Smith, 1997), (5) hands-on lessons (Raizen & Michelson, 1994), (6) well-designed lessons (Asunta, 1997), (7) classroom management (Little, 1990), and (8) syllabus language ((Williams & McBride, 1989). Modelling these specific mentoring practices may lead to developing their mentees' understanding of primary teaching practices in specific subject areas.

Factor 5: Feedback.

Finally, providing feedback allows for preservice teachers to reflect and improve teaching practices (Schön, 1987), and this includes primary teaching practices in specific subject areas (Jarvis et al., 2001). Six attributes and practices that may be associated with the Feedback factor for developing mentee's primary teaching in specific subject areas, requires a mentor to: (1) articulate expectations (Ganser 2002), (2) review lesson plans (Monk & Dillon, 1995), (3) observe practice (Tomlinson, 1995), (4) provide oral feedback (Ganser, 1995), (5) provide written feedback (Rosaen & Lindquist, 1992), and (6) assist the mentee to evaluate teaching practices (Long, 1995). This implies that the provision of Feedback would be enhanced with the inclusion of these specific attributes and practices. Indeed, a mentor who articulates expectations may present a clear picture to the mentee for developing specific teaching practices. Mentors can provide feedback on the formative stages of planning for teaching by reviewing lesson plans. Oral and written feedback requires observation of teaching practices. Mentors can provide feedback on the mentees' perceptions of their teaching by referring to their mentees' evaluations of their primary teaching practices. Indeed, this process of feedback may occur sequentially with expectations articulated each time a mentor provides feedback (see Figure 2).

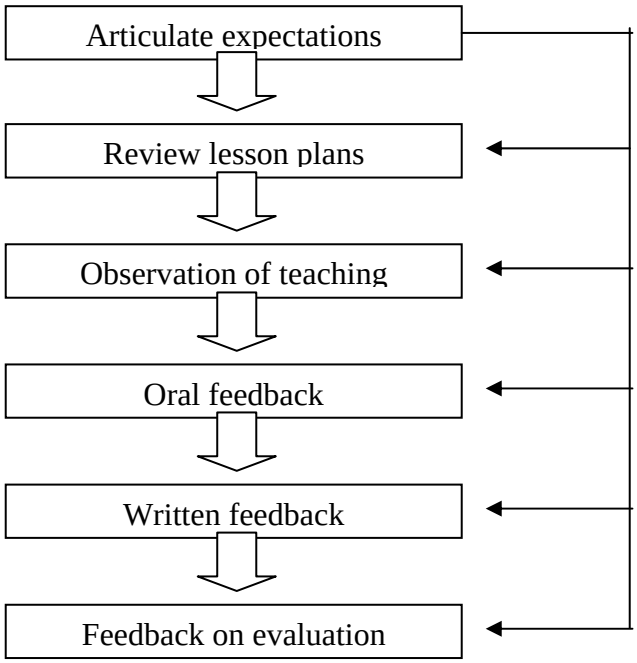

Figure 2. Mentors' articulation of expectations

Discussion and conclusions

The mentor's role in primary preservice teacher education is to aid the development of the mentee's overall teaching ability, yet each mentor has individual beliefs on what is and what is not important. These individual mentor views will vary on all aspects of teaching and mentoring, from the planning through to the choice of classroom procedures for implementing a specific teaching strategy (e.g., see Coates, Jarvis, McKeon, & Vause, 1998). Mentor education appears largely inadequate for developing specialist skills required for mentoring in specific subject areas (Riggs & Sandlin, 2002). For mentees to receive equitable mentoring in specific subject areas would require mentors to be educated on mentoring skills for specific subjects. However, it is also "important to find effective and economic strategies for training teacher-mentors" to improve their specific mentoring (Jarvis et al., 2001, p. 3). Equipping an experienced mentor with specific mentoring strategies for teaching may allow for more efficient and effective mentoring practices in specific subject areas, which may also reduce the number of potential concerns or problems experienced by mentors and mentees (see also Hudson & McRobbie, 2003).

Suitable mentors must be prepared in their roles by having the knowledge to take deliberate action in their mentoring, and by developing specific skills to articulate both their own teaching practices and their mentees' practices. All preservice primary teachers deserve an equal opportunity to learn how to teach, even though the majority of mentors may not be confident in teaching all primary subject areas (e.g., Goodrum, Hackling, & Rennie, 2001). However, it may be possible to provide less confident teachers in a particular subject area with mentoring strategies to competently assist their mentees' development in that area (e.g., Hudson & McRobbie, 2003). Providing mentors with guidelines in specific primary teaching may enable mentors to confidently facilitate mentees' learning.

Mentors who are not expert in a particular primary subject area may be provided with adequate scaffolding to mentor successfully in this area. By drawing on generic sources for mentoring and teaching, and combining this with specific subject pedagogy, "non-specialist" primary teaching mentors may mentor more effectively in that field, with such skills being subsumed in the mentor's role. However, to enable mentors to develop expertise high-level training needs to occur for the mentor (Riggs & Sandlin, 2002). Specific mentoring strategies may aid sequential learning for the mentee about teaching but may also benefit learning for mentors (Jarvis et al, 2001).

The picture that emerges from the literature are five key areas for effective mentoring that may be used as a model for specific subject areas, namely: personal attributes that the mentor needs to exhibit for constructive dialogue (Galbraith & Cohen 1995; Ganser, 1996); system requirements that focus on curriculum directives (Bybee, 1997); competent pedagogical knowledge for articulating best practices (Allsop & Benson, 1996; Hulshof & Verloop, 1994; Kesselheim, 1998); modelling of efficient and effective practice (Barab & Hay, 2001; Carlson & Gooden, 1999); and, feedback for the purposes of reflection to improve practices (Schön, 1987). Hence, in teacher education, mentoring may be defined as the process of demonstrating and articulating personal attributes, system requirements, pedagogical knowledge, modelling, and feedback for the development of a mentee's

teaching practices. It may be argued that these five areas are generic mentoring factors, however, the attributes and practices associated with each factor need to be specifically designed to adequately cater for mentoring in each subject area. Indeed, the mentor's involvement in facilitating the mentee's learning to teach cannot be haphazard (Healy & Leak, 1990), instead, it must be predetermined and sequentially organised; therefore the mentor's objectives must be focused, specific, clear and obtainable. In order for mentoring to be sequential and purposeful, the mentee's needs must be identified and addressed. Mentoring practices may improve by targeting mentee's needs and specific subject mentoring through this five-factor model. However, mentoring requires a two-way dialogue (Dynak, 1997), and this paper focuses on mentor's practices and not on the mentees' contributions to the mentoring process. Indeed, a further development of this proposed mentoring model would include the mentee as a contributor in the two-way process. Nevertheless, the renewed awareness of specific subject mentoring for enhancing preservice teachers' practices may aid in developing the mentor's practices in both mentoring and teaching, ultimately for the betterment of public education.

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